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## **Ceramics and Optics Laboratory Equipment Improvements**

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### **1. MTS Mechanical Testing System Upgrades**

The requested equipment was purchased and installed on the existing system. We are still in the process of getting the proper alignment fixture since the wrong one was initially shipped. The equipment has been used for several small studies during the past year. These include:

- a. Reliability of Ion-Exchanged Glass - 30 samples from 30 different treatments were broken in four point bending to determine how the treatments affected the weibull modulus.
- b. Optimization of Vitreous Ceramics - Undergraduate class project.
- c. Mechanical Behavior of Spinal Implants - Two types of spinal implants were testing in combined compression and bending to determine their deformation and failure modes.
- d. Poisson Ratio of Foamed Elastomers - The mechanical behavior of high density foamed elastomers were measured for comparison with computer models.

### **2. Ceramic Specimen Preparation Equipment**

This equipment was not purchased since the University of New Mexico did not grant Promotion and Tenure to the Principle Investigator who would have been the principle (and possibly only) user of the equipment.

### **3. Optics Laboratory Upgrade**

This was deleted in the initial award by AFOSR since it was focussed on undergraduate teaching rather than research. Therefore, Prof. David Wolfe who authored that portion of the proposal is not included as a PI on this final report.